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NASA Procedural Requirements

COMPLIANCE IS MANDATORY**NPR 8553.1A**Effective Date: March 22,
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Subject: NASA Environmental Management System (EMS) w/Change 2 (04/26/2006)**Responsible Office: Environmental Management Division**

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Chapter 1. Roles and Responsibilities, and EMS Definitions

1.1 Roles and Responsibilities

The role of the NASA Headquarters Environmental Management Division is to implement applicable requirements of NPD 1000.3, The NASA Organization, related to Agencywide environmental issues and initiatives, and NPD 8500.1, NASA Environmental Management.

Additional detail on Roles and Responsibilities is provided in applicable Chapters of this NPR and Appendix A.

- a. The Assistant Administrator for Infrastructure, Management and Headquarters Operations, as the senior Agency official responsible for providing executive and functional leadership for environmental management, is responsible for--
 1. Ensuring that the Headquarters EMS Representative has the responsibilities and authority needed to implement and maintain the Headquarters EMS across Mission Directorates and Mission Support Offices.
 2. Periodically reviewing the Headquarters EMS for status and viability, and leading the assessment, analysis, and preparation of environmental matters to be considered by the NASA Operations Council. (See Chapter 6, Management Review, for details.)
 3. Monitoring implementation of recommendations of the NASA Operations Council related to the Headquarters EMS across Mission Directorates and Mission Support Offices.
 4. Self-declaration of the Headquarters EMS or participation in an external EMS recognition program. (See Chapter 6, Management Review, for details.)
- b. NASA Headquarters Environmental Management Division is responsible for --
 1. Establishing and maintaining NASA environmental policy, requirements and guidance.
 2. Defining and maintaining NPR 8553.1, NASA Environmental Management System.
 3. Establishing and maintaining guidance on the NASA Environmental Management System (see Appendix Z, Parts 1, 2, and 3).
 4. Providing guidance on independent self-declaration assessments (see Appendix Z, Part 3).
 5. (5) Establishing and maintaining guidance on participation in external EMS recognition programs (see Appendix Z, Parts 1 and 3).
- c. The Center Director is responsible for --
 1. Implementing NASA Environmental Policy and Requirements.

4. Defining the scope of the Center EMS.
 3. As applicable, delegating Component Facility environmental management responsibilities to an appropriate Component Facility NASA Authority and optionally designating an individual to assume Center Director responsibilities for the EMS at Component Facilities
 4. Assigning roles and responsibilities for the Center EMS Representative.
 5. Providing the authority needed for the EMS Representative to implement and maintain the Center EMS.
 6. Providing resources for the effective operation and maintenance of the Center EMS.
 7. Periodically reviewing the Center EMS for status and viability. (See Chapter 6, Management Review, for details.)
 8. Self-declaration of the Center EMS or participation in an external EMS recognition program no later than December 31, 2005. (See Chapter 6, Management Review, for details.)
 9. Reporting to NASA Headquarters Environmental Management Division on EMS progress and metrics as requested.
- d. Each NASA Center is responsible for -
1. Determining the applicability of this EMS to its contractors, to satisfy EMS-related requirements of Executive Order 13148 (and applicable Federal Acquisition Regulations). When a determination is made that the EMS is applicable, the NASA officials responsible for the contracts shall ensure that a requirement for implementing this EMS is incorporated into all such contracts no later than the time of the next recompetition of the contracts.
 2. Determining the applicability of the EMS to its tenants to satisfy EMS-related requirements of Executive Order 13148, subject to the limitations of tenancy agreements. When a determination is made that the EMS is applicable, Center Management shall ensure that EMS requirements for tenants are incorporated into future tenancy agreements.
 3. Working with the Headquarters Environmental Management Division to define the scope of the Headquarters Environmental Management System as it pertains to the Agency and Centers.
 4. Reviewing and providing comments to Headquarters Environmental Management Division on NASA environmental information, policy, requirements, and guidance.
- e. The Component Facility NASA authority, shall be responsible for implementation of an EMS commensurate with the environmental responsibilities delegated by the Center Director The Component Facility EMS may be separate from, or a subset of, the Center EMS.
- f. NASA officials responsible for the contract, in the case of a NASA-owned, contractor-operated facility, shall incorporate a requirement for implementing an EMS, if determined appropriate, into the contract no later than the time of the next re-competition of the contract. The requirement shall, at a minimum, be for an EMS that satisfies the EMS-related requirements of Executive Order 13148 (and applicable Federal Acquisitions Regulations). If the contractor does not satisfy the above requirement for an EMS, then NASA officials have discretion to specify in the contract the conditions pursuant to which the contractor shall choose and administer an EMS. Such conditions may include restrictions as to the type of acceptable EMS and provisions for appropriate NASA authority control or supervision of the EMS desired by Center management.

1.2 EMS Definitions

1.2.1 Acceptable State-Sponsored EMS Recognition Program - an acceptable State-sponsored EMS recognition program, shall involve at a minimum, equivalent requirements to those for EMS Self-Declaration.

1.2.2 Annual EMS Review - a review of a Center EMS following EMS audit principles and techniques.

1.2.3 Competence - a demonstrated ability to apply knowledge and skills (training, education, and experience) defined by the organization as appropriate for all personnel whose work may be associated with a priority environmental impact.

1.2.4 Continual Improvement - the recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance in line with NASA environmental policy and the NASA Vision and Mission.

1.2.5 EMS Documentation - EMS documents specified in this NPR (Appendix B).

1.2.6 Document - electronic, written or printed; information, policy, requirement, procedure or guideline that requires regular review or maintenance.

1.2.7 Environmental Management System (EMS) - a system that incorporates people, procedures, resources, responsibilities, and work practices in a formal structure to address the development, implementation, achievement, and review of the environmental policy.

1.2.8 EMS Audit - a systematic, documented, and periodic verification process of objectively obtaining and evaluating evidence to determine whether an organization is conforming to its EMS and for communicating the results of this process to management. The environmental management portion of environmental functional reviews, Center internal annual EMS reviews, and independent self-declaration assessments, are forms of EMS audits.

1.2.9 EMS Core Team - a group of Center personnel that assist with the implementation, maintenance / operation and continual improvement of the Center EMS, with roles and responsibilities defined by Center management.

1.2.10 EMS Record - a record that has been identified as pertaining to the EMS (Appendix B).

1.2.11 EMS Representative - the NASA individual who manages the EMS and is responsible for reporting to Senior Management and NASA Headquarters Environmental Management Division on:

- a. EMS Performance.
- b. Results of environmental functional reviews, audits, and management reviews.

1.2.12 Environmental Aspects - elements of NASA's activities, products, or services that can interact with the environment. Environmental aspects constitute the elements of NASA's activities, products, or services over which NASA has control and which it can manage. Environmental aspect types include:

- a. High priority¹ environmental aspect - an environmental aspect with the most severe risk ranking being high for one or more of its environmental impacts (based on the evaluation of associated impact frequency and severity) as determined by the Risk Ranking Matrix.
- b. Medium priority environmental aspect - an environmental aspect with the most severe risk ranking being medium for one or more of its environmental impacts (based on the evaluation of associated impact frequency and severity) as determined by the Risk Ranking Matrix.
- c. Low priority environmental aspect - an environmental aspect with the most severe risk ranking being low for one or more of its environmental impacts (based on the evaluation of associated impact frequency and severity) as determined by the Risk Ranking Matrix.
- d. Very low priority environmental aspect - an environmental aspect with all risk rankings of very low its environmental impacts (based on the evaluation of associated impact frequency and severity) as determined by the Risk Ranking Matrix.
- e. Headquarters environmental aspect - an environmental aspect associated with Headquarters activities and programmatic decisions affecting Center operations.
- f. Headquarters high priority environmental aspect - a Headquarters environmental aspect that has been ranked as high by a Headquarters Mission Directorate or Mission Support Office, where appropriate considering impact frequency and severity criteria.

¹ Within Federal Government agencies such as NASA, compliance with the National Environmental Policy Act (NEPA) requires that if "major actions" might impose "significant environmental impacts," then measures for mitigating these adverse impacts shall be identified and evaluated. To avoid confusion, the NASA EMS will use the term "priority" instead of "significant" when describing environmental aspects and impacts.

1.2.13 Environmental Aspect Categories - NASA-wide, consistent categories into which all environmental aspects are grouped.

1.2.14 Environmental Compliance Audit - a systematic, documented, and periodic verification process of objectively obtaining and evaluating evidence to review operations and practices related to meeting environmental regulatory requirements and for communicating the results of this process to management. The compliance portion of environmental function reviews and Center reviews of compliance are forms of environmental compliance audits.

1.2.15 Environmental Functional Review - a functional assessment lead by Headquarters Environmental Management Division of environmental management, compliance, and related activities at a NASA Center. Environmental Functional reviews are conducted in accordance with NPD 1210 and are a form of Survey, Audit, and/or Review (SAR) as defined therein.

1.2.16 Environmental Impact - any change to the environment, whether adverse or beneficial, wholly or partially resulting from NASA's activities (past present or future), products, or services. Environmental impacts are changed by the management of environmental aspects. An environmental impact results in or affects --

- a. Safety and Health,
- b. A natural or cultural resource,
- c. A cost to NASA,
- d. The NASA mission,
- e. Reputation or stakeholder relationship, or
- f. An environmental legal/regulatory implication.

1.2.16.1 Environmental impacts may occur as a result of normal, abnormal, or emergency conditions.

- a. Normal operating conditions include situations where environmental impacts are expected to occur as a result of regularly planned operations including planned shutdowns, startups, and maintenance.
- b. Abnormal operating conditions include situations where environmental impacts occur in association with:
 - 1. Unplanned shutdowns, startups, and maintenance.
 - 2. Temporary installations.
 - 3. Unplanned or unexpected events or changes, which can be reasonably foreseen.
- c. Emergency conditions include situations where environmental impacts are associated with a potential emergency as defined by a Center in accordance with NPR 8715.2.

1.2.17 Environmental Objective - an overall environmental goal, arising from the environmental policy, that NASA sets for itself to achieve and which is quantified where practicable.

1.2.18 Environmental Target - a detailed performance requirement, quantified where practicable, applicable to NASA, that arises from the environmental objectives and that needs to be set and met to achieve those objectives.

1.2.19 External EMS Recognition Program - includes any of the following: the International Organization for Standardization's (ISO), ISO 14001, the Environmental Protection Agency's (EPA), National Environmental Performance Track, and/or an acceptable State-sponsored EMS recognition program. While a second edition of ISO 14001 was issued in 2004, the first edition (1996) of ISO 14001 shall continue to be acceptable until withdrawn by ISO.

1.2.20 Independent Self-Declaration Assessment - refers to an assessment of conformance of a Center's EMS to the defined criteria of this NPR by individuals without direct responsibility for the activities being assessed.

1.2.21 ISO 9000 - a series of international quality management system standards developed by quality experts from around the world for use by organizations that either want to implement their own in-house quality systems or to ensure that suppliers have appropriate quality systems in place. The standards were developed under the auspices of ISO, one of the world's principal voluntary standards development bodies.

1.2.22 ISO 14000 - a series of environmental management standards developed by the ISO. The ISO 14000 standards are designed to provide an internationally recognized framework for environmental management, measurement, evaluation, and auditing. The standards are designed to be flexible enough to be used by any organization of any size, in any field. They include the following subjects:

- a. Environmental management systems,
- b. Environmental auditing,
- c. Environmental labels and declarations,
- d. Environmental performance evaluation, and
- e. Life-cycle assessment.

1.2.23 ISO 14001 Environmental Management Systems - Requirements with Guidance for Use - outlines the requirements for an EMS as developed by and agreed to by the ISO.

1.2.24 ISO 19011 Guidelines for Quality and/or Environmental Management Systems Auditing - outlines techniques for developing and managing EMS audit programs and audits and provides recommendations for auditor competence.

1.2.25 Legal and Other Requirements - those requirements that NASA or a Center is regulated to or has committed to meeting. Legal requirements include Federal, State and local laws, regulations, ordinances or policies; Office of Management and Budget circulars; Executive orders; enforceable Agency agreements; contractual obligations; and

international obligations. Other requirements include internal standards, voluntary Agency agreements, Presidential initiatives, industry codes or practice, and non-regulatory guidelines.

1.2.26 NASA Online Directives Information System (NODIS) - an Internet application used for creating NASA directives and for automating the coordination/clearance process. Approved NASA directives are maintained in NODIS, enabling users to retrieve, view, and print NASA directives electronically.

1.2.27 National Environmental Performance Track - a United States EPA voluntary public-private partnership program that encourages continual environmental improvement through the use of environmental management systems, local community involvement, and measurable results.

1.2.28 Noncompliance - a failure to meet NASA or Center legal or other requirements.

1.2.29 Nonconformance - a failure to meet a NASA or Center EMS-specified requirement.

1.2.30 Operational Controls - measures taken: to manage environmental aspects, to mitigate adverse environmental impacts or secure beneficial environmental impacts, and to manage NASA environmental policy and compliance activities. These may include: training, communication, procedures and practices, monitoring and measurement activities, and the installation and operation of physical structures or equipment.

1.2.31 Operational Control Procedures - documented procedures in place: to manage high priority environmental aspects, to mitigate adverse environmental impacts or secure beneficial environmental impacts, and to manage NASA environmental policy and compliance activities.

1.2.32 Record - an electronic, written, or printed object that provides evidence of what was done or has occurred in the past.

1.2.33 Review of Compliance - a review of Center compliance with environmental regulatory requirements following environmental compliance audit principles and techniques.

1.2.34 Self-Declaration - refers to a NASA Center's statement that it is conformant with NASA's EMS self-declaration requirements and the Agency Self-Declaration Protocol for Appropriate Federal Facilities. The Agency Self-Declaration Protocol outlines procedures for Federal agencies that will ensure the credibility of EMS self-declaration as set forth in Executive Order 13148.

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